STATE OF MISSOURI
Matt Blunt, Governor • Doyle Childers, Director
DEPARTMENT OF NATURAL RESOURCES
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MEMORANDUM

DATE: APR - 4 2007

TO: James R. Macy, Director
Field Services Division

THROUGH: Daniel R. Schuette, Director
Division of Environmental Quality

for Edward Galbraith, Director
Water Protection Program

FROM: Robert K. Morrison, P.E., Chief
Water Pollution Control Branch

SUBJECT: Sanitary Sewer Overflows (SSO) Policy Implementation

Discharges of sewage from SSOs in Missouri are not permitted in accordance with 644.051.1.(1) & (2) RSMo which restrict persons from placing any water contaminates in a location where it is reasonably certain to cause pollution of waters of the state and it prohibits the discharge of any water contaminants into waters of the state which reduce water quality below the established water quality standards. It is the goal of the department to work with communities to identify and develop appropriate sewer system collection operations, maintenance, and rehabilitation plans that will serve as a guide for communities in the operation, maintenance and rehabilitation of their sewer systems. The purpose of this memo is to set forth a coordinated and systematic approach for the department to work with communities toward the goal of the elimination of SSOs while recognizing economic and physical limitations that exist in nearly every community in Missouri. The general purpose of this policy implementation memo is to address SSOs that result from hydraulic flow or maintenance issues within the sanitary sewer system. This memo is not intended to address the elimination of constructed SSOs within a sanitary sewer system. Constructed SSOs within a sewer system are structures designed to transport raw sewage during normal or dry weather flow conditions. When wet weather flow conditions occur and flows within the sewer system exceed the conveyance system capacity, these structures are designed to provide for a controlled discharge of raw sewage at a planned location. Constructed SSOs should be eliminated as soon as practicable from the sanitary sewer system. If a sewer system has constructed SSOs, a separate action should be initiated to assess and address the elimination of these types of structures in a systematic manner that ensures downstream capacity in the sewer system exists to accommodate increased flows that will result from the elimination of the constructed SSOs.

The regional offices and the Water Protection Program (WPP) should work together to identify, prioritize and inspect on an annual basis, as described in the Principal Activity List (PAL), facilities with known and documented SSO and peak flow issues. The regions and WPP should also work in a systematic fashion to implement this strategy for all appropriate communities in the state. It is acknowledged that some communities have already implemented a SSO/Infiltration/Inflow (I & I) program.

To assist in the implementation of this strategy the WPP is recommending that communities implement applicable portions of Environmental Protection Agency's (EPA) document titled "Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems" (Document No. EPA 305-B-05-002). This document provides a comprehensive list of inspection, monitoring, tracking, budgeting and rehabilitation options that operators of collection systems should consider in order to reduce Infiltration/Inflow (I/I), eliminate SSOs and ultimately provide secondary treatment for peak flows of the system.

We encourage your staff to become familiar with this guide in order to appropriately apply this guidance to the communities we work with. Please keep in mind that this document goes into great detail about many facets of operating and maintaining a sanitary sewer collection system from appropriate staffing levels to financing of operation and rehabilitation activities. It is not the goal of this effort for the department to use CMOM to micromanage a community's sanitary sewage collection system, only to ensure through the application of CMOM that minimal operation, evaluation and rehabilitation efforts are occurring. The document can be found along with other information on collection system evaluation at ***http://cfpub.epa.gov/npdes/sso/featuredinfo.cfm?program_id=4***.

Infiltration/Inflow (I/I)

Infiltration/Inflow (I/I) can account for a significant portion of the flow during wet weather events. During wet weather events excessive amounts of groundwater or storm related water enters the sanitary sewer collection system through cracks, broken joints, defects in manholes, direct connection to roof leaders, storm drains, and foundation drains just to name a few examples. I/I flows can rob a collection system of its capability to transport sewage and result in SSOs especially during wet weather events. It is our direction that permitting and inspection efforts related to SSOs, be targeted towards assisting communities in developing a sanitary sewer testing and inspection program as identified in section 2.4 of the CMOM. To that end, the WPP has developed sample I/I permit language for use in permits at communities with known I/I and SSO issues and at communities where the statues of I/I or SSO issues are unknown. We are requiring that you add these provisions to the special conditions portion of the permit. In determining whether I/I and SSO issues are known, permitted peak flow outfalls and/or documented frequent reporting of SSO events within the collection system should be evaluated to determine if these conditions exist in the community's wastewater treatment system. If either of these conditions are identified, the more robust I/I study language should be used. Examples

of this language can be found at T:/New Library/I&I Language/I&I Study and T:/New Library/I&I Language/I&I Report and are attached to this memo as Attachment A.

Sanitary Sewer Overflow (SSO)

SSOs are defined by this document as the bypassing or release of raw sewage from the sanitary sewer system prior to discharge of the raw sewage to a wastewater treatment facility for appropriate treatment. EPA has stated in the CMOM guide that every sanitary sewer system has the capacity to have an SSO. This may be due to blockages, structural or mechanical failures or insufficient conveyance capacity of the collection system. SSOs can contribute to human health and environmental impacts which, if left unresolved, can result in impaired uses of water bodies that includes Whole Body Contact Recreation (WBCR) and protection of aquatic life.

The regional offices should identify during their inspections of community wastewater treatment operations potential SSO issues of the collection system in accordance with the elements included in the checklist at T:/New Library/Sewer System Evaluation Checklist (Attachment B). This checklist is intended to serve as a guide; however, it is recognized that the amount of information ultimately collected during the inspection process may vary between communities. This inspection effort should attempt to determine how SSO data is managed and tracked by the community, the status of the community's evaluation and assessment of the condition of the collection system and the status of any rehabilitation conducted by the community of the collection system that may be necessary. SSO, bypass and basement backups should be tracked by the community preferably in electronic formats and include the following information:

- Date and time (best estimate) of the event
- Precipitation data (including intensity and duration)
- Source of the information (e.g. citizen complaint, observation)
- Location of the SSO, bypass or backup
- Duration of discharge (estimate or monitored)
- Volume discharged (estimate or monitored)
- Identification of the waterbody to which the wastewater was released
- Cause of discharge
- Measures taken to respond to the discharge
- Measures taken to prevent reoccurrence including repairs performed
- Date and time of notification to DNR Regional Office

In the event that the facility does not track SSOs, bypasses or basement backups the region should encourage the facility on the initial inspection visit to develop a tracking database appropriate for the collection system's size and needs. This tracking system, once developed, will become a valuable tool for the facilities in terms of prioritization and eliminating SSOs with the collection system.

Regarding reporting of SSOs to the department, communities are required to report to the appropriate regional office, wet weather SSO events (storm related events) on the monthly DMRs and dry weather SSOs (e.g., power outage, pump failure, line plugging) should be reported within 24 hours of their occurrence. SSOs should be reported regardless if the discharge of sewage reaches waters of the state. Basement backups need not be reported to the department in all cases, but should be recorded, tracked by the operator of the system and available for review during inspection. If the department determines during the evaluation process that basement backups in the community pose a widespread risk to public health, they should require the community to include basement backups along with other SSO events in their reporting to the department.

Sewer System Evaluation

Previously in this memo, section 2.4 of the CMOM is referenced regarding an evaluation of a community's sources of I/I flow in the collection system. The goal of this effort is for all communities to have and implement an adequate and appropriate sanitary sewer system evaluation program. The robustness of the program will vary between communities due to their sophistication, exposure to the issues and ability to fund the program. Department staff should work with communities to develop and implement in a cooperative fashion appropriate and adequate sewer system evaluation plans. It is recognized that this is not a one-size fits all approach and that individual specific factors of communities will influence the plan development and implementation. However, as a reminder, our goal is to get the evaluation, maintenance and rehabilitation of our communities sewer systems underway (note: it is recognized that many communities have a long history of appropriate sewer system evaluation, maintenance and rehabilitation) with the ultimate goal the reduction of I/I flows from the collection system and the elimination of bypasses within the collection system. We recognize that we may not achieve our goals, but working toward this goal should greatly reduce chronic bypassing in many sanitary sewer collection systems and result in improved protection of human health and the environment.

If you have any questions, please contact Rob Morrison at (573) 526-0991.

DRS/JRM:rmb

Attachments

c: Mr. Doyle Childers, OD
Mr. Adam Gresham, FSD
Mr. Bruce Martin, FSD
Mr. Earl Pabst, DEQ
Ms. Leann Tippett-Mosby, DEQ
Mr. Ed Galbraith, DEQ